

**Remarks/Arguments**

The Examiner indicates in the Office Action summary sheet that claims 7-9 are objected to. However, applicant notes that no specific objections have been raised in the Office Action. Presumably, the Examiner intended to object to these claims because no prior art grounds have been raised for rejecting these claims while they depend from a rejected base claim. The Examiner also presumably intended to indicate that claims 7-9 would be allowable if rewritten so that they include all the limitations of the base claim as well as any intervening claims from which they depend. In any event, applicant submits that the amended claims are now in condition for allowance and there is clearly no basis for raising an objection to claims 7-9.

The Examiner has rejected claims 1, 3-6, 11, 13-15 and 23 under 35 USC 102(b) as being anticipated by or, alternatively, under 35 USC 103(a) as being obvious over Addiego. In rejecting the claims the Examiner urges that Addiego teaches in column 3-6 mixing an aluminum compound such as boehmite and a barium compound and heating to form Ba on alumina. The Examiner further urges that no difference is seen in the product made. Applicant has carefully considered this rejection but it is most respectfully traversed for the reasons discussed below.

The Examiner's comments that "no difference is seen in the product made" does not appear relevant to the process claims which are rejected. The focus of inquiry in analyzing the patentability of a process claim is on the process steps, not the product made. In order for a process claim to be anticipated by the prior art, the prior art reference must disclose each and every process step recited in the rejected claims. Applicant submits that Addiego *et al.* does not disclose or suggest the process steps of

claim 1, either as originally presented or as amended herein.

Step (b) of claim 1 requires heating the mixture under conditions to form particles of boehmite at least partially **coated with a layer** comprising a compound of barium. Thus, step (b) clearly requires the formation of at least a partial coating of barium around the particles of boehmite. The barium compound, being formed in a layer around the particles of boehmite, is clearly not homogeneously dispersed throughout aluminum oxide since a homogeneous dispersion of barium through the aluminum oxide is clearly different from a distinctly defined “layer”. In contrast, Addiego’s process requires that the barium compound is homogeneously distributed through the  $\text{Al}_2\text{O}_3$ . In this regard Addiego states in column 1, lines 11-16 that “the high surface area is achieved **by a method** which involves forming the AO- $\text{Al}_2\text{O}_3$  by contacting element A in the ionic form with an aluminum oxide yielding species followed by firing to result in the **A being homogeneously distributed throughout the  $\text{Al}_2\text{O}_3$** ” (emphasis added).

Applicant submits that the step in applicant’s invention in which a layer of the barium compound is formed on the particles of boehmite is patentably distinguished over Addiego’s requirement for homogeneously distributing the A (which corresponds to the barium compound) through the  $\text{Al}_2\text{O}_3$ . Moreover, it is well settled in patent law that in order for an invention to be *prima facie* obvious over the prior art, both the motivation and suggestion for modifying the prior art to arrive at the claimed invention must come from the prior art, not applicant’s own specification. It is clear that the only suggestion for processing the catalyst support material so that the particles of boehmite are at least partially coated with a layer comprising a barium compound, instead of the prior art which requires that the barium compound must be homogeneously distributed

within the  $\text{Al}_2\text{O}_3$  comes from applicant's own disclosure, not the prior art since the prior art specifically requires that the barium compound must be homogeneously distributed in the  $\text{Al}_2\text{O}_3$ .

Claim 23 is further distinguished over Addiego *et al.* since claim 23 not only requires that the particles of boehmite are at least partially coated with a layer comprising a compound of barium, but further requires that the precursor material being claimed comprises particles of boehmite and/or transition alumina substantially **completely coated** with a layer comprising barium carbonate, barium oxide and/or barium aluminate.

The Examiner has rejected claims 1, 3-6, 11, 13-15 and 23 under 35 USC 102(b) as being anticipated by or, alternatively, under 35 USC 103(a) as being obvious over Murakami *et al.* In rejecting the claims the Examiner urges that Murakami teaches in column 3, mixing boehmite with a barium salt and heating. Once again the Examiner urges that no differences are seen in the product obtained by Murakami and the product obtained by applicant's claimed **process**. Applicant has carefully considered this rejection but it is most respectfully traversed for the reasons discussed below.

Once again, observed similarities between the product obtained by applicant's claimed process and the product obtained by Murakami *et al.* are not relevant to the specific **process** of applicant's claimed invention. In order to anticipate applicant's claimed process, the cited reference must disclose each and every feature of applicant's claimed process. The Examiner has only alleged that Murakami's process involves mixing boehmite with barium salt and heating. Applicant's process requires additional

steps which are not disclosed or even remotely suggested by Murakami.

The passage in column 3 of Murakami *et al.* describes a process in which gamma-aluminum oxide is mixed with boehmite and a solution containing zirconium nitrate, lanthanum nitrate or barium nitrate to produce a mixture. In the next step the resulting mixture is dried **to give a solid mass** which is then **pulverized with a ball mill to yield powders comprising active alumina with the aforementioned nitrate compounds immobilized thereon**. It is to be noted that contrary to the Examiner's observation, the aforementioned particles are not formed by heating the mixture under conditions to form particles of boehmite at least partially coated with a layer comprising a barium compound, as required in original claim 1. Instead, Murakami *et al.* only specify that the resulting mixture is dried to give a solid mass which is then pulverized to produce the powder. No specific drying procedure is specified. In this regard it is to be noted that drying does not specifically require heating; instead, only exposure to low humidity conditions for a sufficient period of time are required to dry the solid mass. Therefore, Murakami *et al.* clearly fail to disclose or suggest any specific heating step, no less heating under specified conditions to form particles of boehmite which are at least partially coated with a layer comprising a compound of barium.

Furthermore, it is clear from the disclosure of Murakami *et al.* that breaking up the dried solid mass to form a powder will result in the fracturing of the aluminum oxide particles and boehmite to thereby expose portions of these particles which have not come in contact with the nitrate solution. Thus, the resulting particles will not be substantially completely coated as required by claim 23.

In addition, currently amended claim 1 further requires forming a substantially homogeneous mixture of aluminum and barium compound **by homogeneous precipitation of the aluminum and barium containing compounds** whereby the mixture is in the form of a substantially homogeneous precipitate. Clearly, Murakami *et al.* completely fail to disclose or suggest this aspect of applicant's invention. Moreover, there is absolutely no suggestion provided by Murakami for modifying his procedure to include the aforementioned step.

In view of the above, applicant submits that the rejection of the claims as being anticipated or obvious over Murakami *et al.* is untenable and should be withdrawn.

Lastly, the Examiner has rejected claims 1-3, 6, 10-15, 23 and 24 under 35 USC 102(e) as being anticipated by or, alternatively, under 35 USC 103(a) as obvious over Suzuki *et al.* In rejecting the claims the Examiner urges that the examples of Suzuki teach depositing boehmite alumina on a honeycomb, and also using barium carbonate. The Examiner further urges that the material of Suzuki is then heated at a low temperature and the product is not different from the product produced by applicant's claimed process.

It is to be noted that claim 5 is not included in this rejection. Claim 5 requires that the aluminum and barium containing compounds are in the form of a substantially homogeneous precipitate. This limitation of claim 5 has now been incorporated into claim 1 thereby obviating the rejection.

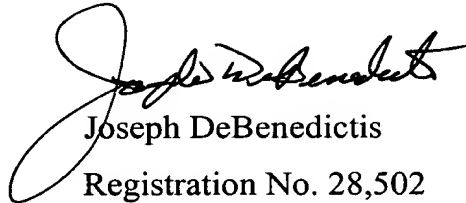
With respect to claims 23 and 24, it is clear that Suzuki *et al.* fail to disclose or suggest the specific limitation of claims 23 and 24 which requires that the particles of

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boehmite and/or transition alumina are substantially completely coated with a layer comprising barium carbonate, barium oxide and/or barium aluminate.

In view of the above arguments and amendments to the claims, applicant respectfully requests reconsideration and allowance of all of the claims which are currently pending in the application.

Respectfully submitted,  
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